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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/784,591	02/23/2004	Charles Black	YOR920010225US2	9561
47939	7590	08/25/2006	EXAMINER	
CONNOLLY BOVE LODGE & HUTZ LLP (IBM YORKTOWN) 1990 M STREET, NW SUITE 800 WASHINGTON, DC 20036-3425			GOODWIN, DAVID J	
			ART UNIT	PAPER NUMBER
			2818	

DATE MAILED: 08/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>		<b>Applicant(s)</b>	
	10/784,591		BLACK ET AL.	
	<b>Examiner</b>		<b>Art Unit</b>	
	David Goodwin		2818	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 20 June 2006.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 21,24,35,37,50 and 51 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 21,24,35,37,50 and 51 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>11/8/05, 2/23/04</u>  | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claim 37 rejected under 35 U.S.C. 102(b) as being anticipated by Li (US 2002/0022278).
3. Regarding claim 37
4. Li teaches a dielectric layer comprising grains of uniform size having less than 10% deviation (paragraph 0042). A 10% deviation is narrow distribution range

1. Claims 37, 20, 24, 35, 50 are rejected under 35 U.S.C. 102(b) as being anticipated by Hartman (US 2001/0036052).
2. Regarding claim 37.
3. Hartman teaches forming a dielectric layers (paragraph 0024). The most preferred particle size is 50 nanometers (paragraph 0023). Wherein the particles are the most preferred size the layer will comprise no deviation in particle size.
4. Regarding claim 20.
5. Hartman teaches that the layer comprises 60% nanoparticles (paragraph 0024).
6. Regarding claim 21.

Art Unit: 2818

7. Hartman teaches that the particles have a size of 50 nanometers which is about 20 nanometers in diameter.
8. Regarding claim 24.
9. Hartman teaches that the particles comprise barium titanate, which has a formula of BaTiO<sub>3</sub>.
10. Regarding claim 35.
11. Hartman teaches that the layer comprises 60% nanoparticles (paragraph 0024).
12. Regarding claim 50.
13. Hartman teaches that the layer comprises 60% nanoparticles (paragraph 0024).
14. Claims 37, 20, and 51 are rejected under 35 U.S.C. 102(b) as anticipated by Constantino (US 2001/0048969).
15. Regarding claim 37.
16. Constantino teaches a dielectric layer comprising uniform sized grains (paragraph 0051, 52). Said dielectric layer comprises grain particles having a size distribution from 0 to less than 0.8 microns. Preferably more than 90% of the particles are less than 0.3 micros with a ratio of the 90<sup>th</sup> percentile particle size to the 10<sup>th</sup> percentile particle size being preferably less than 2.5 (paragraph 0019). Because the size range is 0.8 but 90% of the particles are less than 0.3 the particles comprises a highly uniform sample with a standard deviation of less than 15%. Further, Constantino states that the particle range is less than 2.5 and 1.0 is less than 2.5, which would indicate complete particle uniformity.
17. Regarding claim 20

Art Unit: 2818

18. Constantino teaches that the layer comprises particles of barium titanate material forming 93-98% of the material with the remaining 2-7% of the material being metal oxides (paragraph 0052).

19. Regarding claim 51

20. Constantino teaches that the layer comprises particles of barium titanate material forming 93-98% of the material with the remaining 2-7% of the material being metal oxides (paragraph 0052).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Goodwin whose telephone number is (571)272-8451. The examiner can normally be reached on Monday through Friday, 9:00am through 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Smith can be reached on (571)272-1907. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DJG

*Douglas L. Owens 8/21/06*

DOUGLAS W. OWENS  
PRIMARY EXAMINER